

This Listing of Claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Please amend the following claims:

Claim 1 (Canceled).

Claim 2 (Currently amended) The crystal of claim 3 further characterized by an ability to provide x-ray diffraction patterns useful to define molecular structures for functional bacterial IMPDH enzymes.

Claim 3 (Currently Amended) A crystal of bacterial IMPDH (inosine monophosphate dehydrogenase) produced from purified and enzymatically active IMPDH obtained from a bacterial preparation wherein the bacterial preparation is a pure culture of *Streptococcus pyogenes*.

Claim 4 (Currently Amended) A method for developing lead compounds for an inhibitor of bacterial IMPDH (inosine monophosphate dehydrogenase), said method comprising:

- (a) obtaining a crystal of bacterial IMPDH;
- (b) recording x-ray diffraction data from said crystal;
- (c) using said diffraction data to generate an electron density map consistent with a model for the molecular structure of a binding pocket of bacterial IMPDH; and
- (d) developing lead compounds for an inhibitor of the bacterial IMPDH based on the map of three dimensional structural information of the molecular structure of the binding pocket of bacterial IMPDH.

Claim 5 (Canceled).

Claim 6 (Currently Amended) A crystalline molecule or molecular complex derived from IMPDH with enzymatic activity, the molecule or molecular complex comprising a binding pocket, wherein said binding pocket is defined by structure coordinates of IMPDH amino acids 50-56, 75-80, 229-235, 252-260, 283-286, 302-322, 343-345, 365-432 and 449-455, according to in the Protein Data Bank Accession Number 1ZFJ, or a homologue of said molecule or molecular complex, wherein said homologue comprises a binding pocket that has an amino acid sequence

~~identity for the corresponding binding pocket residues of 60% or greater relative to the *S. pyogenes* IMPDH binding pocket.~~

Claim 7 (Canceled)

Claim 8 (Canceled).

Claims 9-15 (withdrawn)

Claim 16 (New) A crystalline molecule or molecular complex produced from bacterial IMPDH of claim 6, wherein the binding pocket has an amino acid sequence identity of 60% or greater relative to the *S. pyogenes* IMPDH binding pocket.